



● 10161

OBSERVATION OR TEST WELL WITH ALASKA NUMBER

MAP UNIT	LITHOLOGY AND STRATIGRAPHY	LANDFORMS AND OCCURRENCE	SURFICIAL DRAINAGE AND INFILTRATION	GEOLOGIC CONTACT
Qgm	Sandy gravel, stratified silt in tidal flats, generally less than 50 feet thick; overlying stratified silt, clay, and sand.	Low terraces (lat) and flood plains (qaf) of the Kenai and Kaslof Rivers.	Surficial drainage poor because of low relief; infiltration good except in tidal flats or where water table is near the surface.	Water-table aquifers adequate for domestic wells but generally too thin for high yields. Where water-table aquifers are connected to river, high-capacity infiltration galleries may be constructed. Artesian aquifers from 80-200 feet below land surface suitable for 200-1,000 gpm wells. Water quality generally good. Water-table aquifers moderately high in iron content. Water from a few wells in the artesian aquifer has excessive chloride or dissolved-solids contents, hydrogen sulfide gas, or color.
Qac	Gravelly sand, well stratified to lenticular, 50-100 feet thick; overlying stratified clay, silt, fine sand, and gravel.	Broad, flat valleys entrenched in older sediments. Appear to be former meltwater channels that were formed during the melting of glaciers that covered the Kenai lowland.	Surficial drainage poor because of low relief; infiltration poor because of near-surface water table.	Ground-water availability moderate to good. Water-table aquifer yields range from 20-300 gpm. Artesian aquifers from 100 to more than 300 feet below land surface. Artesian aquifer developed in these deposits in the Beaver Creek valley near Kenai yields as much as 1,000 gpm to individual wells. Water quality poor to good. Water from the water-table aquifer has high iron content; some wells in the artesian aquifer have excessive chloride or dissolved-solids contents or color.
Qdc	Gravelly sand, well stratified to lenticular, 50-100 feet thick; overlying stratified clay, silt, and fine sand as much as 600 feet thick.	Broad, level plain north of Kenai and between the Kenai and Kaslof Rivers.	Surficial drainage poor because of low relief; infiltration poor because of near-surface water table.	Ground-water availability poor to moderate. Water-table aquifer capable of producing 100-200 gpm. Intermittent artesian aquifers from 100 to 400 feet below land surface but not known to produce more than 100 gpm. Water quality generally poor. Water-table aquifers have objectionable iron content, and many wells in the artesian aquifer have objectionable chloride or dissolved-solids contents or color.
Qbc	Sand and lenticular gravel. Upper 100 feet are generally stratified sand and gravel grading down to finer sand, silt, and clay.	Hummocky to nearly level plains near the Kenai and Kaslof River valley.	Surficial drainage moderate to good; infiltration good to excellent.	Ground-water availability moderate to good. Artesian aquifers have typical well yields of 20-300 gpm. Artesian aquifers 80-300 feet below land surface capable of producing 300-1,000 gpm. Several good producing domestic and semi-public wells in the area. Water quality generally good. Iron content moderately high in aquifers; some deeper artesian aquifers have excessive chloride or dissolved-solids contents, hydrogen sulfide gas, or color.
Qab	Sand and gravel, coarse, well sorted, 100 feet thick grading down to stratified clay, silt, fine sand, and gravel.	Broad, level plain north of Kenai.	No developed surficial drainage; infiltration excellent.	Ground-water availability believed to be good. Limited exploration has shown ground-water potential to be good in the water-table aquifer. Because of its similarity with other areas, good artesian aquifers may occur from 100-300 feet below land surface. Water quality good in the water-table aquifer.
Qad	Sand, gravel, and silt, well stratified to lenticular, and intergrading with overlying heterogeneous mixture of clay, silt, sand, and gravel from 100-400 feet thick; upper 100 feet are generally well-sorted sand and gravel, below which the unit grades to finer sand, silt, and clay.	Rolling to steep hills and broad, nearly level plains. Occurs most extensively in the northern part of the study area. Contains many lakes.	Surficial drainage good on slopes, poor in depressions and broad, flat areas; infiltration good except in low areas where water table is near land surface.	Ground-water availability moderate to good. In the North Kenai area, individual wells produce as much as 1,000 gpm both from water-table aquifers and artesian aquifers 100-300 feet below land surface. Water quality generally good. Iron content moderately high in water-table aquifers; some of the deeper artesian aquifers have excessive chloride or dissolved-solids contents or color.
Qaf	Clay, silt, sand, and gravel, heterogeneous mixture, some areas thinly and irregularly veneered with sorted sand and gravel of glaciofluvial origin, 100-600 feet thick; grades to predominantly fine sand, silt, and clay below 100 feet.	Steep hilly terrain near East Foreland and Boulder Point and in a northeast-trending belt along the eastern side of the study area. Contains numerous closed-basin lakes.	Surficial drainage good on slopes, poor in depressions; infiltration ranges from poor to good depending on soil texture.	Ground-water availability poor to moderate because of low permeability. Water quality generally good.

Base from U.S. Geological Survey 1:63,360 topographic series: (2A) (5-2), (B-4), (C-2), (C-3), (C-4), (D-2), (D-3), 1951, and (2B) (B-2) 1950, and (C-4) 1952. Compiled Menlo Park, Base Map Unit, 11-19-68.

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Geology by T. N. Karlstrom, 1958 G. S. Anderson, 1967-71

Plate 1.--Surficial geology and geohydrology.